

Remarks

The language of claims 1 and 18 objected to by the Examiner has been corrected as requested. Other changes have been made to the claims to place them into better form.

Claim 4 has been rejected under 35 U.S.C. 112 second paragraph as being indefinite, as the metes and bounds of the derivatives cannot be determined. Responsive thereto, Applicants have amended the claim to set forth the general formula of the derivatives. This formula is recognized in the art as a formula for polyalkylenoxide polysiloxane as represented by Dow Corning 193 Surfactant. Submitted herewith is a product information sheet for Dow Corning 190, which sets forth chemical formula. Thus, as Dow Corning 190 is specifically referenced in the specification, no new matter has been added. To further provide support for the formula set forth in the claim, the specification has also been amended to specifically recite the Dow Corning 190 formulation.

With respect to the rejection of claims 5, 6, 8, 9 and 18-21, the weight percent bases have been added. In claim 15, the term "low soluble precipitators" has been replaced with --precipitators-- to provide the appropriate agreement with claim 12. Applicants have also changed the term "comprising" to --comprises-- in claims 22 and 23. It is believed that use of "comprising" in claim 24 is proper, as it relates to an additional step in the process, rather than a product formed by the process.

Claim 25 has been rejected as being anticipated by either McGinley et al, U.S. Patent 5,462,761 or Schaible et al, Pub. No. US 2003/0089465. While Applicants acknowledge that the method steps are not considered in a product-by-process claim, the claim has been amended to more clearly recite the characteristics of the resulting product, and it is submitted that neither McGinley et al nor Schaible et al recite or disclose an MCC composition that meets the characteristic limitations recited, including the inclusion of functional precipitates. As further discussed below in connection with the method claims, the prior art of record offers no teaching or suggestion of functional precipitates.

Claims 1-3, 7-9, 12-14, 16-19 and 24 have been rejected under 35 USC 103(a) as unpatentable over the combination of Schaible et al and McGinley et al. The rejection of the process claims in view of the cited reference is respectfully traversed as follows.

The Schaible reference, while disclosing a process for preparing microcrystalline cellulose, does not teach or suggest the significant aspect of the present inventive process in which one or more precipitators are added to the hydrolyzed cellulose, such that fine particles of insoluble functional ingredients precipitate out into a slurry which contains the MCC. Schaible neither discloses nor suggests a process in which the MCC formed incorporates such water-insoluble products having commercially desirable functions, such as serving as fillers, pigments, anti-blocking agents or lubricants, or rheology adjusters. These insoluble functional ingredients are obtained by precipitation at the same time that neutralization of the hydrolysis-generating acid occurs, rather than being added to the MCC at a later stage. Such precipitation insures full dispersion of the precipitates throughout the slurry and maintenance of the microcrystalline nature of the composition, while removing the precipitate-yielding components from the broth, thus making the process environmentally favorable.

The Examiner's reference of paragraphs 82-85 of Schaible et al disclosing use of hydrogen peroxide, magnesium sulfate and sodium hydroxide is misplaced. Schaible indicates at the referenced location that the final MCC product can be brightened by use of hydrogen peroxide in association with the other listed components. Their use as bleaching agents for a final MCC product is not a teaching of use of such components as additives or precipitators in conjunction with the neutralization of a hydrolyzing acid as disclosed in the present invention. One skilled in the art would not recognize the disclosed bleaching function in Schaible as a suggestion of addition of such components as functional additives or precipitators during an intermediate (neutralization) reaction; the acid environment would render any intended bleaching effect inoperative.

Further, while the present disclosure does suggest that it is known in the art to manufacture MCC using a hydrolysis step comprising strong mineral acid solutions, such knowledge does not add to the teachings of Schaible et al with respect to the novel induced precipitation of functional insolubles upon neutralization of the present invention.

McGinley et al '761 fails to cure this significant defect of Schaible et al. While McGinley et al discloses the addition of a fat/emulsifying blend to an MCC slurry, these additives directly bind with the MCC, and neither suggest nor teach that such modifiers can be generated by a precipitation reaction and can thus be combined with the MCC through such precipitation phase during neutralization of the hydrolyzing acid.

As all method claims are dependent upon claim 1 and thus incorporate the precipitation set, they are similarly allowable. Withdrawal of the rejections and allowance of all claims is solicited.

Respectfully submitted,

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ENCL.

CERTIFICATE UNDER 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 9, 2006.

CAROL L. WOOD, Sender 

Information About Dow Corning® 190 and 193 Surfactants

INCI/CTFA Name

Dimethicone copolyol

Type

Silicone glycol polymer

Form

Liquid

Special Properties

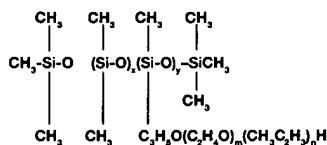
Soluble in water; alcohol and hydroalcoholic systems; hydrolytically stable

Primary Use

Used in hair and skin care products, shampoos and shaving products

DESCRIPTION

Dow Corning® 190 and 193 Surfactants are silicone glycol copolymers with a chemical formula of:



Dow Corning 190 and 193 Surfactants act as surface tension depressants, wetting agents, emulsifiers and foam builders in a wide variety of cosmetic and personal care products. They are used in hair sprays to plasticize some resins and impart a soft, silky feel to the hair. In addition, they increase foam volume and improve wetting and lubricity of skin care products.

Dow Corning 190 Surfactant produces less stable foam due to its silicone related characteristics. Dow Corning 193 Surfactant is water soluble and gives more stable foams.

Optimum stability of water solutions is achieved at neutral pH.

BENEFITS

Dow Corning 190 and 193 Surfactants impart the following benefits:

- Lubrication
- Detackification
- Surface tension depression
- Humectancy

- Softening
- Foam building
- Non-oily
- Hydrolytic stability at neutral pH
- Inverse solubility

LIMITATIONS

Dow Corning neither represents nor tests this material for medical device or pharmaceutical applications.

SHIPPING LIMITATIONS

None.

STORAGE AND SHELF LIFE

Shelf life information is subject to change. Refer to the Sales Specification for current shelf life information.

When stored at or below 16°C (60°F), these materials will become hazy and solidify to a soft wax that warming reliquifies.

PACKAGING

Dow Corning 190 and 193 Surfactants are supplied in 1-lb (0.45-kg) samples, 40-lb (18.1-kg) pails and 441-lb (200-kg) containers, net weight.

SAFE HANDLING INFORMATION

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

	Dow Corning 190 Surfactant	Dow Corning 193 Surfactant
Color, Gardner Scale	2	2
Specific Gravity at 25°C (77°F)	1.035	1.07
Viscosity at 25°C (77°F), cs	1500	465
Flash Point, closed cup, °C (°F)	121 (250)	149 (300)
Inverse Solubility Point, 0.1 percent water solution, °C (°F)	36 (97)	73 (163)
Average Cloud Point, 1 percent silicone distilled in water, °C (°F)	37 (99)	84 (183)
Calculated HLB ¹	5.63	12.45

¹HLB = $\frac{\text{Wt. \% EO in Polymer}}{5}$

DOW CORNING

Specification Writers: Please obtain copies of the Dow Corning Sales Specifications for these products, and use them as a basis for your specifications. They may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call (517) 496-6000.